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Recent Estimates of Safety Belt Use

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Presented by:

Director

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The **N**ational **O**ccupant **P**rotection **U**se **S**urvey provides the nation's only probability-based observed data on

belt use

child restraint use, and

cell phone use

on the nation's roads.

Review, Continued

- **Conducted in two "studies".**
  - ◆ **Moving Traffic**
    - ○ Belt and helmet use.
    - ○ 2,000 sites, 162,000 vehicles, 900 motorcycles.
  - ◆ **Controlled Intersection**
    - ○ Child seat use, cell phone use, and belt use demographics.
    - ○ 1,100 sites; 38,000 vehicles

Controlled Intersection Data Collection

Observe

shoulder belt use (cell phone use; child seat use)

of driver and RF passenger over 7 years old (drivers; at most 3 children in the front and second seats)

in passenger vehicles with no commercial markings

at intersections controlled by a stop sign or stoplight

during daylight hours.

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Design Aspects that Affect Belt Estimates

- **Daylight observation**

- **Shoulder belt use of driver and RF passenger**
    - ♦ 2000: passengers 5 and older, 2002: 8 and older

- **Data were collected in June.**
    - ♦ 2-4 weeks after belt campaigns
    - ♦ Previous data collection was in Fall 2000.

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- Race, age, and urbanization are determined subjectively.

- Adjustment for vehicles stopped at controlled intersections.
  - ◆ Controlled intersections exhibit higher belt use.
  - ◆ However, belt estimates are adjusted by the Moving Traffic estimates.

- Net consequence: Most belt estimates are probably overstated.
  - ◆ Some detail estimates (e.g. other races) might be understated.

Design Aspects Affecting Child Restraint Estimates

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- **Daylight** observation

- **Vehicles** stopped at controlled intersections
  - ◆ **Don't have a basis for adjusting child estimates to general roadways.**

- **Changes in** age groups **and new** restraint type **in 2002.**
  - ◆ **More later.**

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- **Don't observe all children.**
  - ◆ **at most one child in front seat**
  - ◆ **at most two in second seat**
  - ◆ **no children in third seats, etc.**

- **Data were collected in June.**
  - ◆ **End of school year**
  - ◆ **2-4 weeks after belt campaigns**
  - ◆ **Previous data collection was in Fall 2000.**

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- **Age and urbanization are determined subjectively.**

- **Net consequence: Most child restraint estimates are probably overstated.**
  - ♦ **Some detail estimates might be understated.**

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New Methodologies in 2002

New Age Group and Restraint to Measure Booster Seat Use

- ## Age groups
  - ♦ 0 (infant), 1-3 (toddler), 4-7 (booster-age child), 8-15 (youth), 16-24 (young adult), 25-69 (adult), 70+ (senior)

- ## Restraints
  - ♦ forward-facing child seat, rear-facing child seat, booster seat, belt

- ## Consequence for belts
  - ♦ Belt demographics are for 5+ in 2000, and 8+ in 2002.

Increased Number of Sites

- **2000 Controlled Intersection**
  - ♦ **700 sites**
  - ♦ **12,000 vehicles**
  - ♦ **290 children (ages 0-4)**
    - ○ **90 infants, 200 toddlers (ages 1-4)**
- **2002 Controlled Intersection**
  - ♦ **1,100 sites**
  - ♦ **38,000 vehicles**
  - ♦ **3,500 children (ages 0-7)**
    - ○ **500 infants, 1,000 toddlers (ages 1-3), 2,000 booster-age children (ages 4-7)**
- **Decreased sampling error with no increase in cost.**

Increased Sites with No Added Cost

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- **2000 Controlled Intersection sites**
  - ♦ **Moving Traffic sites that are controlled intersections.**

- **2002 Controlled Intersection sites**
  - ♦ **Added any controlled intersection that could find on the selected road segment.**

Scientifically valid way to decrease sampling error without increasing cost.

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National Estimates

The National Estimate

- **Belt use was 79% in 2003.**
  - ◆ **Up from 75% in 2002**
  - ◆ **Change was statistically significant, with more than 95% confidence**
  - ◆ **Converted 17% of nonusers**
  - ◆ **The largest increase seen since NOPUS began**
  - ◆ **Indicates that Click It or Ticket was a huge success**

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Comparison to Target Rates

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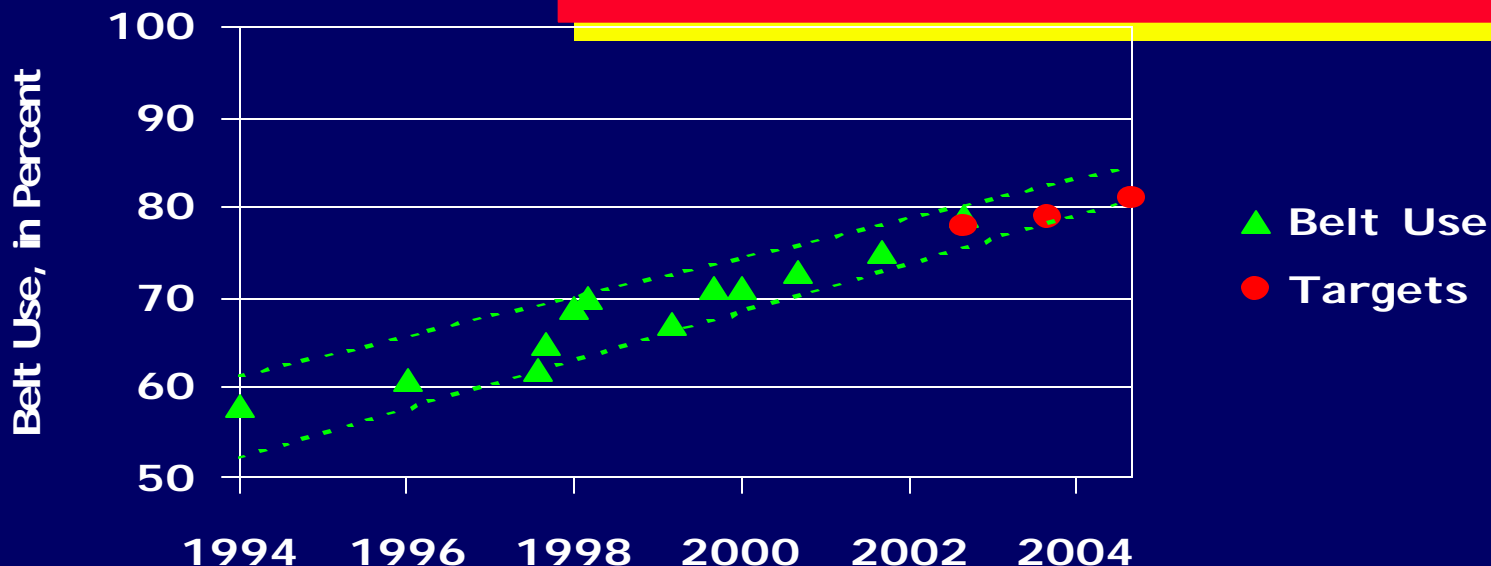
- Have exceeded the 2003 GPRA target (78%) and met the 2004 target (79%).
- New use rate is consistent with the trend.

Numbers of Observations

Numbers of	2002	2003	Increase
Sites	2000	2000	0%
Vehicles	158,000	162,000	3%
Occupants	209,000	213,000	2%

Where Did Belt Use Increase?

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- **Belt use increased by a statistically significant amount in:**
  - ◆ The South
  - ◆ Secondary states
  - ◆ All vehicle types
  - ◆ Both drivers and right front passengers
  - ◆ All times of day and week

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Where Is Belt Use Low?

Secondary vs Primary

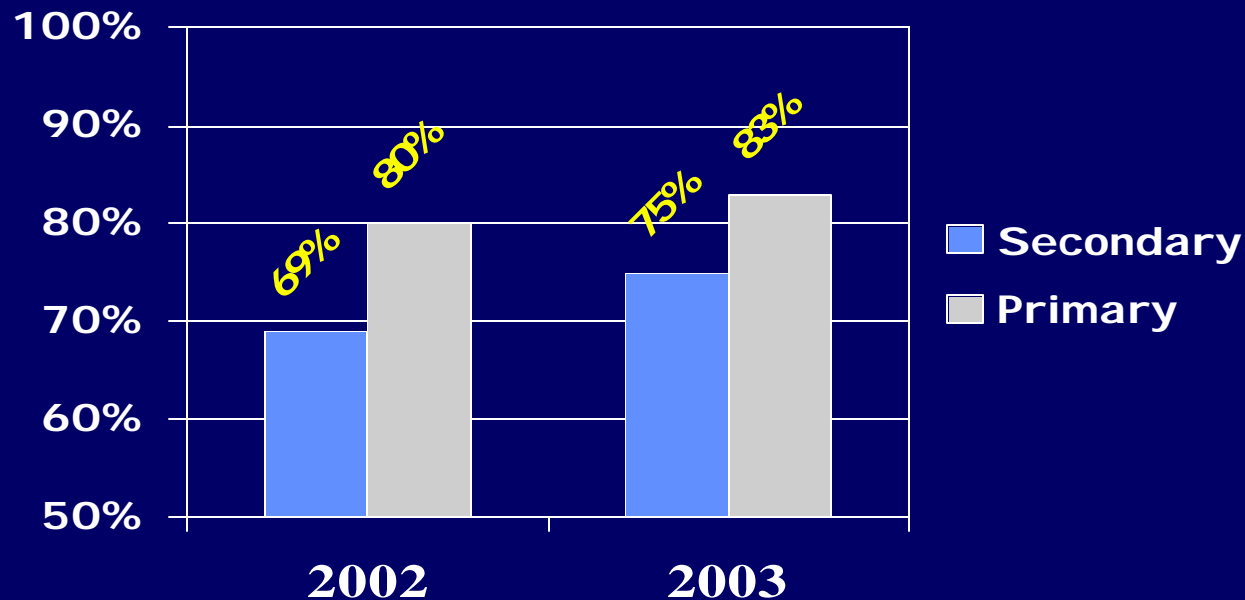**National Center for Statistics & Analysis**

- **Use is lower in <u>secondary</u> (75%) than in <u>primary</u> states (83%).**
  - ◆ **This has been the case for many years.**

Secondary vs Primary

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Legend:
- Secondary (blue)
- Primary (gray)

Chart data:
- 2002: Secondary 69%, Primary 80%
- 2003: Secondary 75%, Primary 83%

The secondary-primary gap is smaller. Although secondary states improved, belt use continues to be lower in secondary than in primary states.
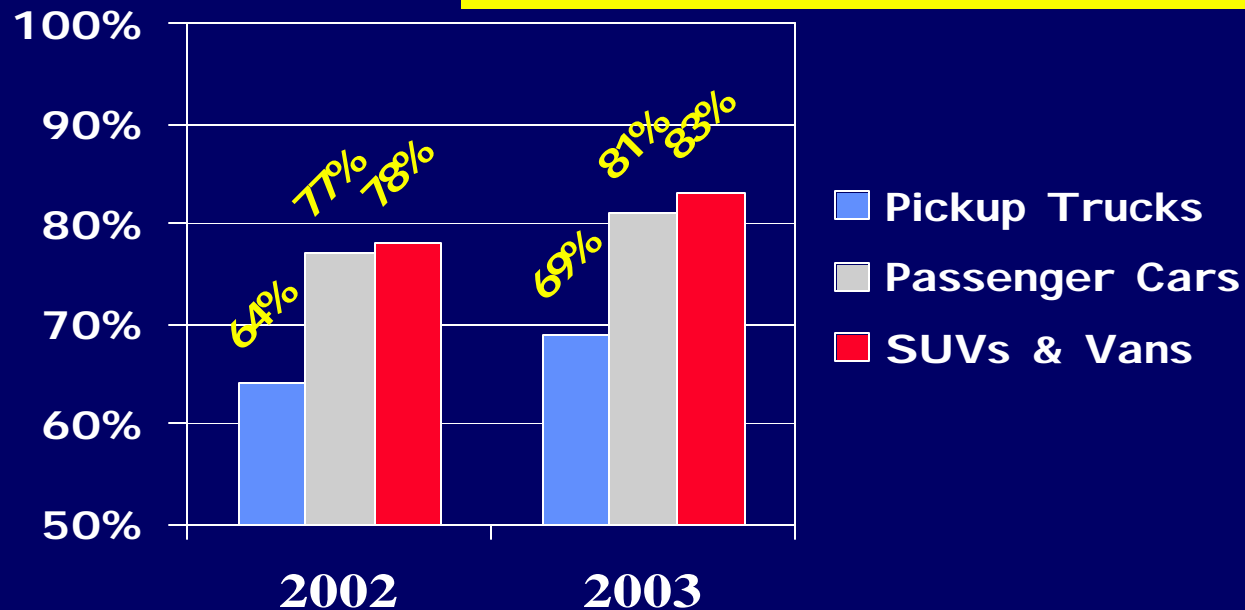
Belt Use by Vehicle Type

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- **Use is lowest in <u>pickup trucks</u> (69%), followed by passenger cars (81%), while SUVs & vans have the highest use (83%).**
    - ◆ Belt use in pickups has been lowest for many years.

Belt Use by Region

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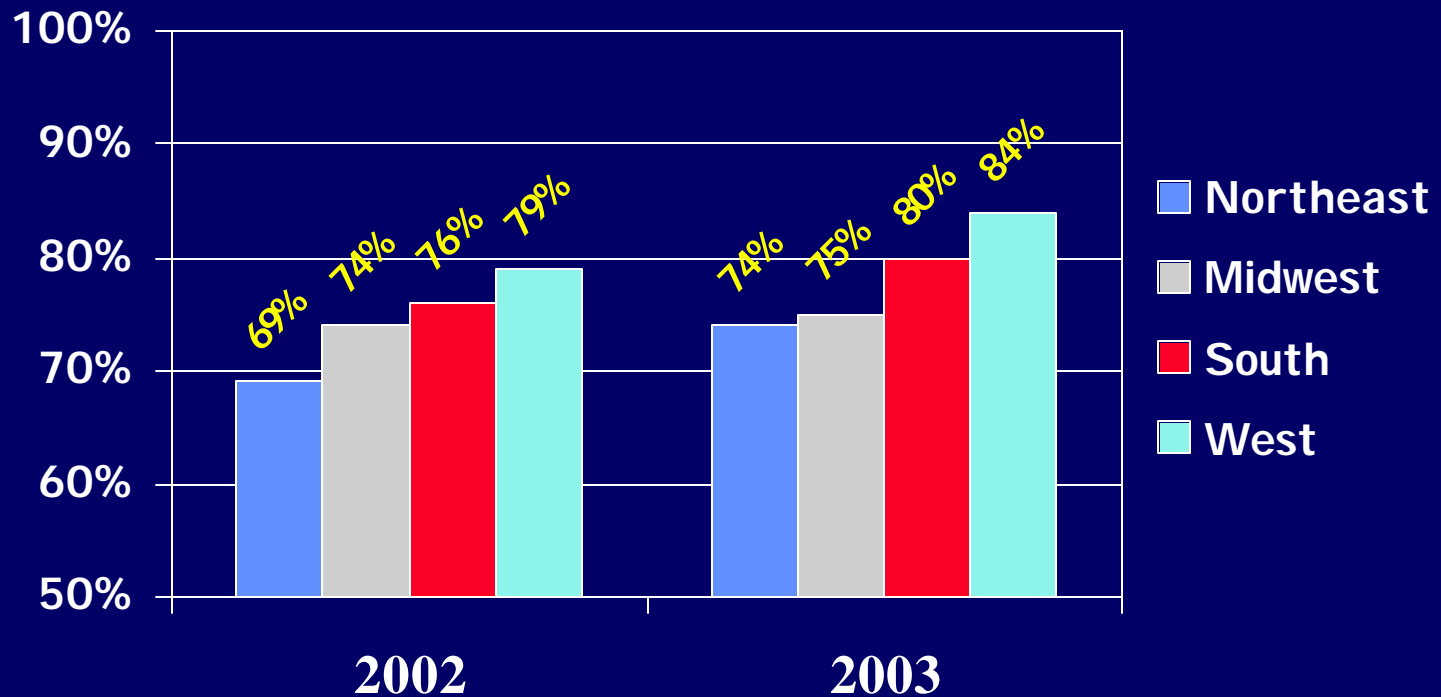
- **Use is lower in the <u>Northeast</u> (74%) and <u>Midwest</u> (75%) than in the South (80%) and West (84%).**
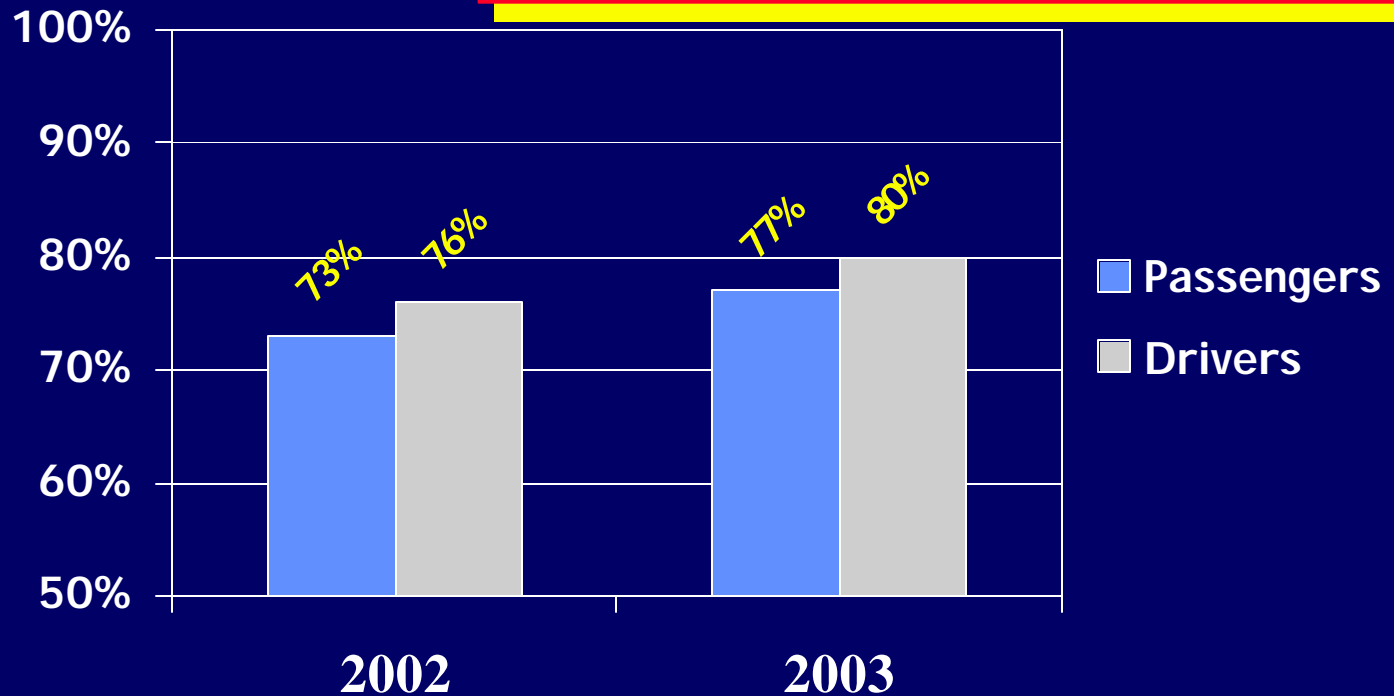 - ♦ **Historically, regional differences have varied from year to year.**

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- **Use is similar among drivers (80%) and passengers (77%).**
  - ◆ Have been similar for a number of years.

Drivers vs Passengers

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	2002	2003
Passengers	73%	77%
Drivers	76%	80%

Use increase by statistically significant amounts among both drivers and passengers in 2003.

Belt Use by Time of Day and Week
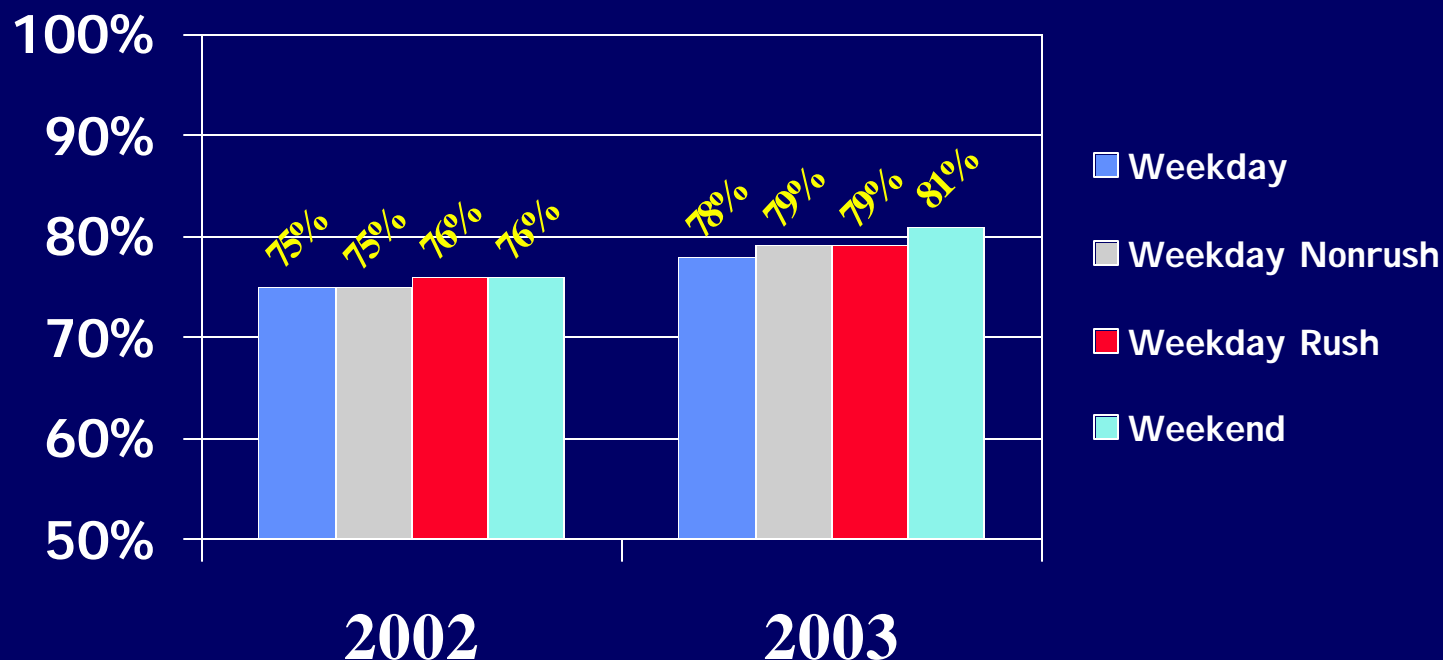
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- **Use is similar on weekdays (78%) compared to weekends (81%) in 2003.**

- **Use is similar during weekday rush hour (79%) compared to weekday nonrush (79%).**

- **Have seen similar results in previous years.**

Belt Use by Time of Day and Week

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Weekday
Weekday Nonrush
Weekday Rush
Weekend

2002: 75%, 75%, 76%, 76%
2003: 78%, 79%, 79%, 81%

All four increases in use in 2003 are statistically significant.

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2002 NOPUS Controlled Intersection Survey – Selected Demographics

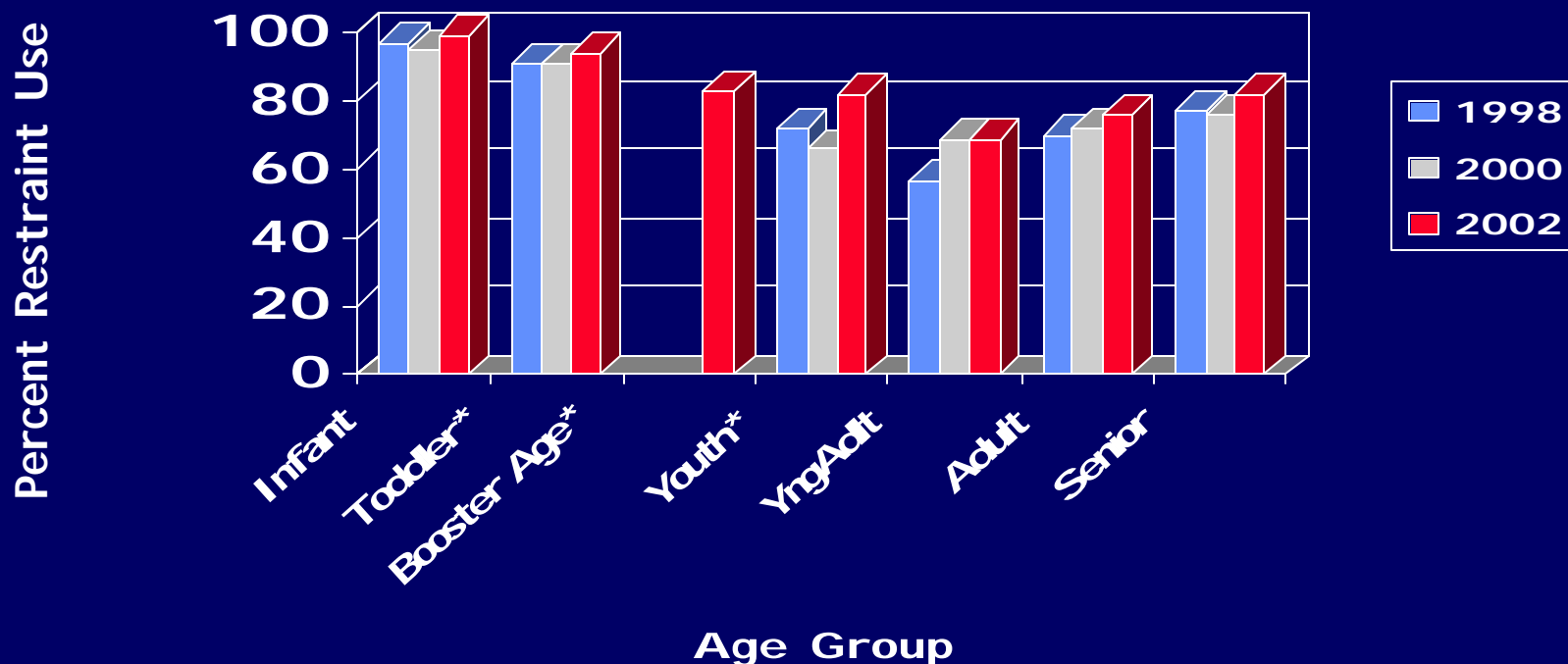People Saving People

Use Rates Are Higher for Almost Every Age Group. The Highest Rates Occurred Among Young Children and Youths.

Occupant Protection Use by Age and Year

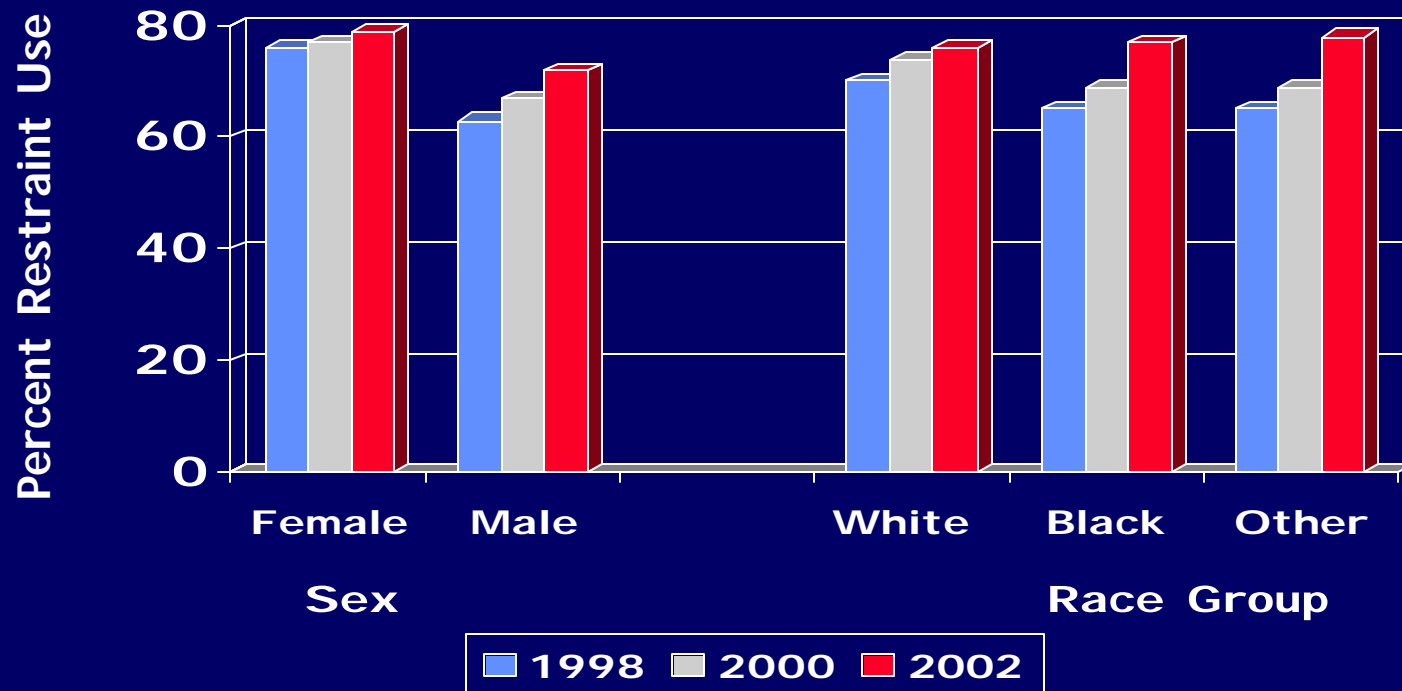*Toddlers are 1-4 yrs prior to 2002 and 1-3 yrs in 2002. Booster age is 4-7 yrs. Youth are 5-15 prior to 2002 and 8-15 in 2002.

- **Sex and Race data show:**

  ♦ Women are more likely than men to use belts.

  ♦ Use among blacks increased by 8 percentage points, from 69% in 2000 to 77% in 2002.

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Belt Usage Among Different Racial Groups Varies With the Type of Vehicle

Occupant Protection Use
by Race Group and Vehicle Type
2002

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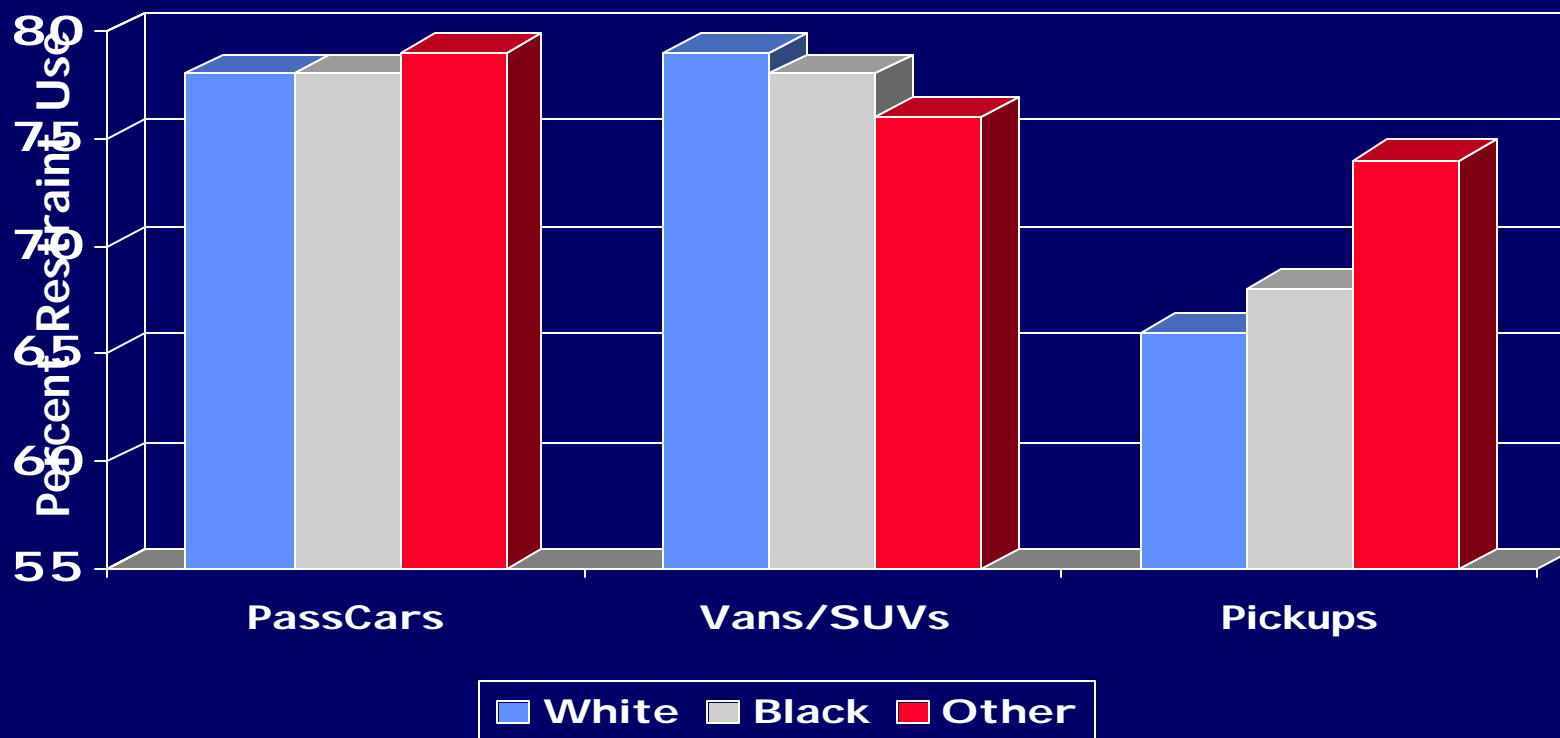
Controlled Intersection Study

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Children Are More Likely to Be Restrained in Vehicles Where the Driver Is Restrained

Child Restraint Use
by Driver Use and Year
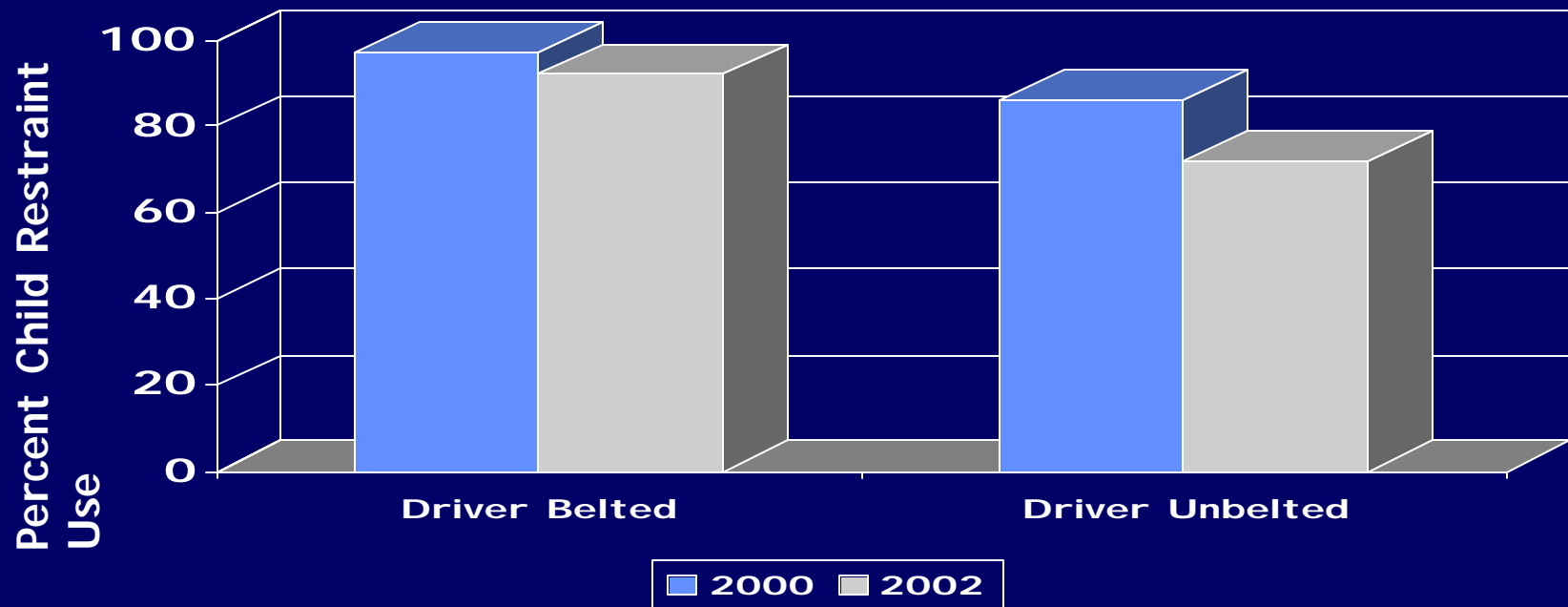
Child restraint use may have declined because definition of "Child" changed, from 5-15 yrs in 2000 to 8-15 yrs in 2002.

Women Drivers Are More Likely Than Men to Restrain Young Children

Child Restraint Use
by Driver Sex and Year
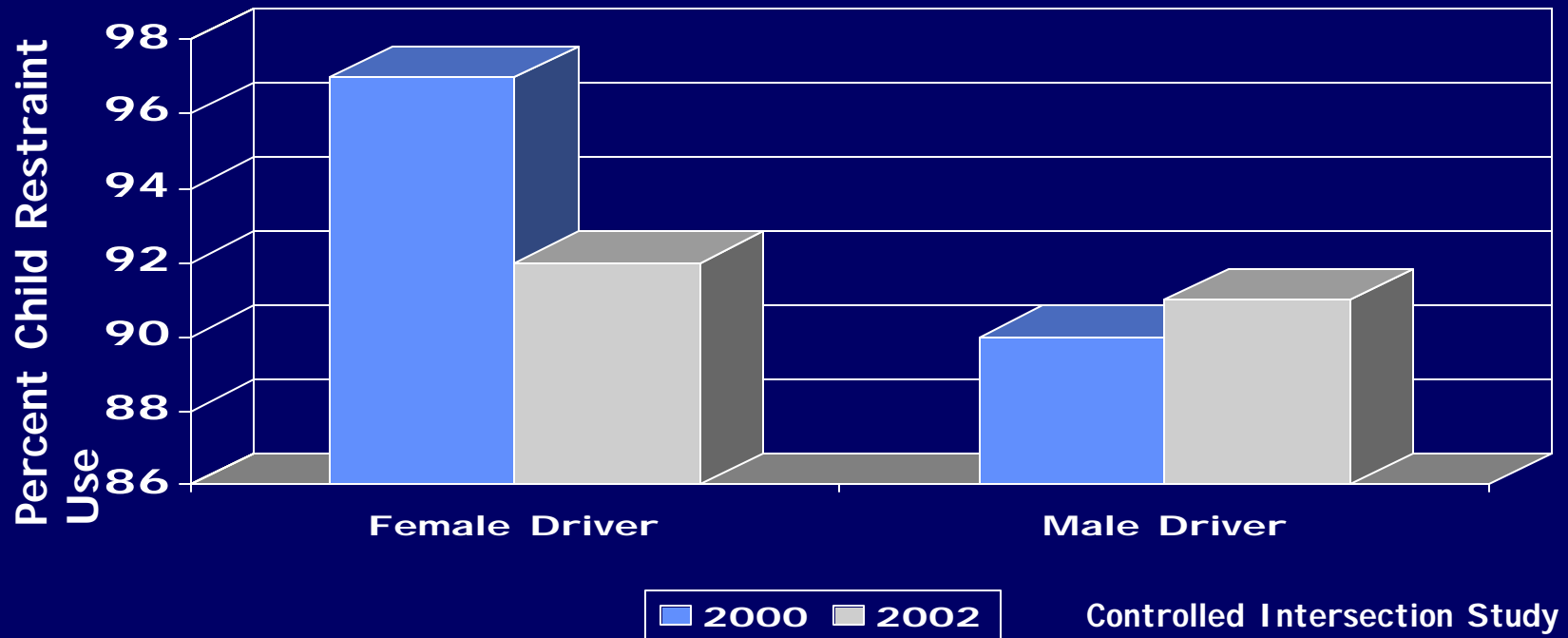
Controlled Intersection Study

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Highlights of 2003 State Rates

State Data Surveys

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- **Follow overall guidelines in Section 157 of the TEA-21**
  - ◆ Observational survey
  - ◆ Uses probability sample of observation sites
  - ◆ Standard set of passenger vehicles
  - ◆ Driver and right-front passenger observed
  - ◆ Estimates must meet a specified level of statistical precision
  - ◆ Provide statewide estimates with a known margin of error

Conversion From Non- Users to Users – Top Ten States

State	Safety Belt Law	Use Rate by Year		Conversion (%)
		2002	2003	
Arizona	Secondary	74%	86%	46%
Alaska	Secondary	66%	79%	38%
Indiana	Primary	72%	82%	36%
Georgia	Primary	77%	85%	35%
Washington	Primary	93%	95%	29%
Utah	Secondary	80%	85%	25%
Illinois	Primary	74%	80%	23%
Idaho	Secondary	63%	72%	24%
Oklahoma	Primary	70%	77%	23%
Massachusetts	Secondary	51%	62%	22%

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State	Safety Belt Law	Use Rate by Year		Conversion (%)
		2002	2003	
North Dakota	Secondary	63%	64%	3%
Mississippi	Secondary	62%	62%	0%
Connecticut	Secondary	78%	78%	0%
Arkansas	Secondary	64%	63%	–3%
New Mexico	Primary	88%	87%	–8%
Minnesota	Secondary	80%	79%	–5%
Alabama	Primary	79%	77%	–10%
Florida	Secondary	75%	73%	–8%
Vermont	Secondary	85%	82%	–20%
Puerto Rico	Primary	91%	87%	–44%

State Rates

State Rates in 2003

State	Rate (%)	Change, in ppts	Conver-sion (%)	State	Rate (%)	Change, in ppts	Conver-sion (%)
AK	79	13	38	FL	73	-2	-8
AL	77	-2	-10	GA	85	8	35
AR	63	-1	-3	HI	92	2	20
AZ	86	12	46	IA	87	4	22
CA	91	0	0	ID	72	9	24
CO	78	5	19	IL	80	6	23
CT	78	0	0	IN	82	10	36
DC	85	0	0	KS	64	3	8
DE	75	4	14	KY	66	4	11

Green: Double digit conversion.

Red: Negative double digit conversion.

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State Rates in 2003, Continued

State	Rate (%)	Change, in ppts	Conver-sion (%)	State	Rate (%)	Change, in ppts	Conver-sion (%)
LA	74	5	16	NC	86	2	13
MA	62	11	22	ND	64	1	3
MD	88	2	14	NE	76	6	20
ME				NH		50*	
MI	85	2	12	NJ	81	0	0
MN	79			NM	87	-1	-8
MO	73	4	11	NV	79	4	16
MS	62	0	0	NY	85	2	12
MT	80	2	9	OH	75	5	17

Green: Double digit conversion.

Red: Negative double digit conversion.

*Obtained by Preusser Research Group using methods compliant with Section 157, Title 23.

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State Rates in 2003, Continued

State	Rate (%)	Change, in ppts	Conver- sion (%)	State	Rate (%)	Change, in ppts	Conver- sion (%)
OK	77	7	23	TX	84	3	16
OR	90	2	17	UT	85	5	25
PA	79	3	13	VA	75	5	17
PR	87	-4	-44	VT	82	-3	-20
RI	74%	3	10	WA	95	2	29
SC	73%	7	21	WI	70	4	12
SD	70%	6	17	WV	74	2	7
TN	69%	2	6	WY			

Green: Double digit conversion.

Red: Negative double digit conversion.

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